REPORT TO MARICOPA COUNTY DEPARTMENT OF PUBLIC HEALTH IMMEDIATELY- (602) 506-6767
AFTER HOURS & WEEKENDS- (602) 747-7111

Meningococcal Disease -Quick Sheet

Infectious agent: *Neisseria meningitidis*, a gram-negative diplococcus. There are 13 serogroups of *N. meningitidis*. Strains belonging to groups A, B, C, Y, and W-135 are implicated most frequently in systemic disease.
Mode of transmission: Person to person through direct contact with nasopharyngeal secretions of an infected person. The bacteria may also be spread through droplets or via an inanimate vehicle contaminated with saliva (*e.g.*, a cigarette or water bottle)
Period of communicability: Cases remain infectious as long as meningococci are present in nasopharyngeal secretions or until 24 hours after initiation of effective antibiotic treatment.

CDC Case Definition and Classification *(for purposes of public health reporting)*

Laboratory Criteria for Diagnosis

- Isolation of *Neisseria meningitidis* from a normally sterile site.

Case Classification

- **Confirmed:** A clinically compatible case that is culture confirmed.
- **Probable:** A positive antigen test in cerebral spinal fluid or clinical purpura fulminans in the absence of a positive blood culture.

Clinical Features

Invasive infection with *N. meningitidis* may cause several clinical syndromes, including meningitis, bacteremia, sepsis or pneumonia.

Symptoms of meningitis (infection of the meninges, the membrane covering the central nervous system). Sudden onset of a stiff neck, high fever and headache. A petechial rash may be present. Nausea, vomiting and mental confusion are often also present.

Symptoms of meningococcemia (infection of the blood)
Abrupt onset of fever, chills, malaise, prostration and rash (uticarial, maculopapular, purpuric or petechial).

Other comments

- Fulminant cases present with purpura, disseminated intravascular coagulation, shock, and/or coma and may lead to death within hours despite appropriate therapy.
- The case fatality rate for meningococcal meningitis and meningococcemia is about 10-15% even with appropriate antibiotic treatment.
- Persons with certain complement deficiencies (blood disorders that cause immunocompromise) are prone to recurrent disease and persons without a functioning spleen are more susceptible to bacteremic illness.

Incubation period
The incubation period is variable, 1-10 days, usually 2-4 days.

Recommended Treatment and Chemoprophylaxis

Treatment

- Penicillin G should be administered intravenously for patients with invasive meningococcal disease including meningitis. Cefotaxime, Ceftriaxone, and ampicillin are acceptable alternatives. In a patient with penicillin allergy characterized by anaphylaxis, chloramphenicol is recommended.

Chemoprophylaxis

- **Rifampin (72-90% efficacy)**
  - Age <=1 month - 5mg/kg, orally, every 12 h for 2 days
  - Age > 1 month – 10mg/kg (maximum 600 mg), orally, every 12 h for 2 days
- **Ceftriaxone – Intramuscular (97% efficacy)**

  - Age <= 15 years – 125 mg IM, single dose
  - Age > 15 years – 250 mg IM, single dose
- **Ciprofloxacin (90-95% efficacy)**
  - Age >= 18 years – 500 mg, orally, single dose

High risk: chemoprophylaxis recommended (close contact)

- Household contact: especially young children
- Child care or nursery school contact during 7 days before onset of illness
- Direct exposure to index patient's secretions through kissing or through sharing toothbrushes or eating utensils, markers of close social contact during 7 days before onset of illness.
- Mouth-to-mouth resuscitation, unprotected contact during endotracheal intubation during 7 days before onset of illness
- Frequently slept or ate in same dwelling as index patient during 7 days before onset of illness

Low risk: chemoprophylaxis not recommended

- Casual contact: no history of direct exposure to index patient's oral secretions (e.g., school or work mate)
- Indirect contact: only contact is with a high-risk contact, no direct contact with the index patient
- Health care professionals without direct exposure to patient's oral secretions

In outbreak or cluster

- Chemotherapy for people other than those at high risk should be administered only after consultaion with the local public health administration

Meningococcal Immunity

A serogroup-specific quadrivalent meningococcal vaccine against serogroups A,C,Y, and W-135 *N. meningitides* is available in the United States for use in children 2 years of age and older. No vaccine currently is available in the United States for the prevention of group B disease. Routine childhood immunization is not recommended. However, immunization is recommended for children 2 year of age and older in high-risk groups. Please refer to the Red Book for details.

Meningococcal Investigation

Invasive Meningococcal Disease is a reportable disease, and County or Local Health Departments must be notified within 24 hours when a case of invasive meningococcal disease is suspected. PLEASE ASSURE THAT ISOLATE HAS BEEN FORWARDED TO THE ARIZONA STATE LABORATORY FOR SEROGROUPING. A National Bacteremia and Bacterial Meningitis Investigation Form must be submitted for each confirmed invasive meningococcal case. Reporting of communicable disease is **mandated** under the Arizona Administrative Codes *(R9-6-352)*

Outbreak Control Strategy

Refer to the Control of Communicable Diseases Manual; Meningococcal Meningitis; #9 Methods of Control. Refer to the Red Book; Meningococcal infections; Control Measures.